Claims:

1. A method for arbitrating bandwidth in a communications switch, comprising:

a) generating a repeating data frame having a plurality of rows;

b) making requests during row N for space in row N+1; and

c) granting requests through an out-of-band link.

2. A method according to claim 1, wherein:

each request includes through-the-switch routing information and priority level information.

~~3. A method according to claim 2, further comprising:~~

d) buffering the request at each stage of the switch;

e) discarding low priority requests when the buffer reaches a ~~threshold.~~

4. A method according to claim 3, wherein:

said step of granting requests includes returning requests which have not been discarded before reaching the egress of the switch.

5. A method according to claim 1, wherein:

each request for space is for a 52-byte chunk of space.

6. A method according to claim 5, wherein bandwidth is arbitrated among ATM cells and variable length packets, said method further comprising:

d) segmenting each packet larger than 52-bytes into a plurality of 52-byte chunks.

7. A method according to claim 6, wherein:

each request includes through-the-switch routing information and priority level information.

~~8. A method according to claim 7, further comprising:~~

e) buffering the request at each stage of the switch;

f) discarding low priority requests when the buffer reaches a ~~threshold.~~

9. A method according to claim 8, wherein:

said step of granting requests includes returning requests which have not been discarded before reaching the egress of the switch.

10. A method according to claim 9, further comprising:

g) discarding requests for all following segments of a packet when a request for one segment of the packet has been discarded.

11. A method according to claim 1, wherein:

said requests are made in-band.

12. A method according to claim 1, wherein:

said requests are made out-of-band.

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